What Is Claimed Is:

1. A transflective liquid crystal display, comprising:

upper and lower substrates facing into and spaced apart from each other, wherein the upper and lower substrates include a plurality of pixel regions that display images;

a liquid crystal layer interposed between the upper and lower substrates, wherein the liquid crystal layer has a first adjusted thickness to compensate an residual optical retardation of incident light caused by anchored liquid crystals near an alignment layer when a maximum operation voltage is applied;

an upper quarter wave plate (QWP) on the upper substrate, wherein the upper quarter wave plate has a second adjusted thickness to compensate the residual optical retardation caused by the liquid crystal layer when the maximum operation voltage is applied;

an upper polarizer on the upper quarter wave plate;

a transparent common electrode on a surface of the upper substrate facing into the lower substrate;

a pixel electrode over a first surface of the lower substrate, wherein the pixel electrode corresponds to each pixel region, and the pixel electrode is divided into transparent and reflective portions;

a lower quarter wave plate (QWP) on a second surface of the lower substrate;

a lower polarizer below the lower quarter wave plate; and

a backlight device arranged to be adjacent to the lower polarizer.

2. The transflective liquid crystal display according to claim 1, wherein the transparent portion of the pixel electrode includes a transparent electrode being disposed on a surface of the lower substrate facing into the upper substrate.

3. The transflective liquid crystal display according to claim 2, further comprising a passivation layer on the transparent electrode.

4. The transflective liquid crystal display according to claim 3, wherein the reflective portion of the pixel electrode includes a reflective electrode.

5. The transflective liquid crystal display according to claim 4, wherein the reflective electrode is disposed on the passivation layer and has a transmitting hole in a central portion.

6. The transflective liquid crystal display according to claim 1, wherein the first adjusted thickness is $d+d_1$, where d is a normal thickness of the liquid crystal layer and d_1 is calculated using the following equation,

$$T = Sin^2 2\phi Sin^2\left[\frac{\pi \cdot \Delta n \cdot d_1}{\lambda}\right],$$

where T is a value of transmittance when a maximum operation voltage is

applied, ϕ is an angle between an optical axis of the liquid crystal layer and a transmissive axis of the polarizer, Δn is a birefringence of the liquid crystal layer.

7. The transflective liquid crystal display according to claim 6, wherein ϕ is about 45 degrees.

8. The transflective liquid crystal display according to claim 1, wherein the second adjusted thickness of the upper QWP is d+ d_2, where a normal thickness of the upper QWP is d and d_2 is calculated from the following equation,

$$T = Sin^2 2\phi Sin^2\left[\frac{\pi \cdot \Delta n \cdot d_2}{\lambda}\right],$$

where T is a value of transmittance, ϕ is an angle between a slow axis of the upper QWP and a transmissive axis of the polarizer, Δn is a birefringence of the upper QWP.

9. The transflective liquid crystal display according to claim 8, wherein ϕ is about 45 degrees.

10. The transflective liquid crystal display according to claim 1, wherein a slow axis of the lower QWP is perpendicular to that of the upper QWP.

11. The transflective liquid crystal display according to claim 1, wherein the liquid crystal layer includes a homogeneous liquid crystal that is arranged in a vertical direction when a voltage is applied.

12. The transflective liquid crystal display according to claim 1, wherein the optical axis of the liquid crystal layer is parallel to the slow axis of the lower QWP.

13. The transflective liquid crystal display, comprising:

upper and lower substrates facing into and spaced apart from each other, wherein the upper and lower substrates include a plurality of pixel regions that display images;

a liquid crystal layer interposed between the upper and lower substrates, wherein the liquid crystal layer has a first adjusted thickness to compensate a residual optical retardation of incident light caused by anchored liquid crystals near an alignment layer when a maximum operation voltage is applied;

a first upper retardation film over the upper substrate;

a second upper retardation film between the first upper retardation film and the upper substrate, wherein the second upper retardation film has a second adjusted thickness of compensating an optical retardation caused by the liquid crystal layer;

an upper polarizer on the first upper retardation film;

a transparent common electrode on a surface of the upper substrate facing into the lower substrate;

a pixel electrode over the lower substrate, wherein the pixel electrode corresponds to each pixel region, and the pixel electrode is divided into transparent and reflective portions;

a second lower retardation film on the other surface of the lower substrate, wherein the second lower retardation film has a third adjusted thickness to compensate a residual optical retardation caused by the liquid crystal layer when a maximum operation voltage is applied;

a first lower retardation film under the second lower retardation film;

a lower polarizer under the first lower retardation film; and

a backlight device arranged adjacent to the lower polarizer.

14. The transflective liquid crystal display according to claim 13, wherein the transparent portion of the pixel electrode includes a transparent electrode being disposed on a surface of the lower substrate facing into the upper substrate.

15. The transflective liquid crystal display according to claim 14, further comprising a passivation layer on the transparent electrode, wherein the passivation layer has a transmitting hole in a central portion.

16. The transflective liquid crystal display according to claim 15, wherein the reflective portion of the pixel electrode includes a reflective electrode.

17. The transflective liquid crystal display according to claim 16, wherein the reflective electrode is disposed on the passivation layer and has the transmitting hole in a central portion.

18. The transflective liquid crystal display according to claim 13, wherein the first adjusted thickness is $d+d_1$ in the reflective portion of the liquid crystal layer and $2d+d_2$ in the transmissive portion of the liquid crystal layer, the first adjusted thickness is calculated from the following equation,

$$T = Sin^2 2\phi Sin^2\left[\frac{\pi \cdot \Delta n \cdot d_*}{\lambda}\right],$$

where d is a thickness of the liquid crystal layer in a reflective portion for an optical retardation of $\lambda/4$, 2d is a thickness of the liquid crystal layer in a transmissive portion in order for an optical retardation of $\lambda/2$, T is a value of transmittance when a maximum operation voltage is applied, ϕ is an angle between an optical axis of the liquid crystal layer and a transmissive axis of the polarizer, Δn is a birefringence of the liquid crystal layer, and d_* is a thickness of the liquid crystal layer, d_* is d_1 or d_2, and d_1 and d_2 are calculated from the above equation, d_1 is a first auxiliary thickness of the liquid crystal layer when the residual optical retardation of the light is γ in the reflective portion, d_2 is a second auxiliary thickness of the liquid crystal layer when the residual optical retardation value of the light is ω in the transmissive portion, and a phase difference between the transmissive and reflective portions is $\delta=\omega-\gamma$.

19. The transflective liquid crystal display according to claim 18, wherein ϕ is about 45 degrees.

20. The transflective liquid crystal display according to claim 13, wherein the second upper retardation film has a thickness of d_4 and a transmittance of T, wherein the second adjusted thickness of the second retardation film is calculated using the following equation,

$$T = Sin^2 2\phi Sin^2\left[\frac{\pi \cdot \Delta n \cdot d_*}{\lambda}\right],$$

where, T is equals to the value of the transmittance, ϕ is an angle between a slow axis of the retardation film and a transmissive axis of the polarizer, Δn is a birefringence of the retardation film, and d_* is a thickness of the liquid crystal layer, wherein d_* is d_1, d_2 or d_3, wherein d_1, d_2 and d_3 are calculated from the above equation and the following equation, $d_{2(\omega)}=d_{1(\gamma)}+d_{3(\delta)}$, where, d_1 is a first auxiliary thickness of the liquid crystal layer when the residual optical retardation of the light is γ in the reflective portion, d_2 is a second auxiliary thickness of the liquid crystal layer when the residual optical retardation of the light is ω in the transmissive portion, and then the phase difference between the transmissive and reflective portions is $\delta=\omega-\gamma$, and wherein the second upper retardation film has the thickness of "$d_4+d_{1(\gamma)}$" for compensating the optical retardation.

21. The transflective liquid crystal display according to claim 20, wherein ϕ is about 45 degrees.

22. The transflective liquid crystal display according to claim 13, wherein the second lower retardation film has the thickness of "d_4-$d_{3(\delta)}$" for compensating the optical retardation.

23. The transflective liquid crystal display according to claim 13, wherein the first upper and lower retardation films are half wave plates (HWPs).

24. The transflective liquid crystal display according to claim 13, wherein the second upper and lower retardation films are quarter wave plates (QWPs).

25. The transflective liquid crystal display according to claim 13, wherein the transmissive axis of the lower polarizer is perpendicular to that of the upper polarizer.

26. The transflective liquid crystal display according to claim 13, wherein the slow axis of the first upper retardation film is perpendicular to that of the first lower retardation film.

27. The transflective liquid crystal display according to claim 13, wherein the slow axis of the second upper retardation film is perpendicular to that of the second

lower retardation film.

28. The transflective liquid crystal display according to claim 13, wherein the optical axis of the liquid crystal layer is parallel to the slow axis of the second lower retardation film.

29. A transflective liquid crystal display, comprising:

upper and lower substrates facing into and spaced apart from each other, wherein the upper and lower substrates include a plurality of pixel regions that display images;

an upper quarter wave plate (QWP) on the upper substrate;

an upper polarizer on the upper quarter wave plate;

a lower quarter wave plate (QWP) below the lower substrate;

a lower polarizer below the lower quarter wave plate;

a backlight device arranged to be adjacent to the lower polarizer;

a liquid crystal layer interposed between the upper and lower substrates;

a transparent common electrode on a surface of the upper substrate facing into the lower substrate;

an upper alignment layer between the transparent common electrode and the liquid crystal layer;

a pixel electrode over the lower substrate, wherein the pixel electrode corresponds to each pixel region, and the pixel electrode is divided into transparent and reflective portions; and

a lower alignment layer between the pixel electrode and the liquid crystal layer;

wherein a transmissive axis of the upper polarizer is perpendicular to a transmissive axis of the lower polarizer, a slow axis of the upper QWP is perpendicular to a slow axis of the lower QWP, the slow axis of the upper QWP forms an angle of 45° with the transmissive axis of the upper polarizer, an optical retardation of the upper QWP is $\lambda/4+\alpha$, α ranges from zero to 100nm, and the slow axis of the lower QWP is parallel to an orientation direction of the liquid crystal display layer.

30. The transflective liquid crystal display according to claim 29, wherein an optical retardation of the liquid crystal layer is $\lambda/4+\alpha$.

31. The transflective liquid crystal display according to claim 29, wherein an optical retardation of the liquid crystal layer is different between transmissive and reflective portions, the optical retardation is $\lambda/4+\alpha$ in the reflective portion, the optical retardation is $\lambda/2+\beta$in the transmissive portion, and β ranges from zero to 100nm.

32. The transflective liquid crystal display according to claim 29, wherein an optimum value of α for adjusting the optical retardation ranges from zero to 50nm.

33. The transflective liquid crystal display according to claim 31, wherein an optimum value of β for adjusting the optical retardation ranges from zero 50nm.

34. A transflective liquid crystal display, comprising:

upper and lower substrates facing and spaced apart from each other, wherein the upper and lower substrates include a plurality of pixel regions that display images;

an upper quarter wave plate (QWP) on the upper substrate;

an upper half wave plate (HWP) on the upper QWP;

an upper polarizer on the upper HWP;

a lower quarter wave plate (QWP) below the lower substrate;

a lower half wave plate (HWP) below the lower QWP;

a lower polarizer beolw the lower HWP;

a backlight device arranged to be adjacent to the lower polarizer;

a liquid crystal layer interposed between the upper and lower substrates;

a transparent common electrode on a surface of the upper substrate facing into the lower substrate;

an upper alignment layer between the transparent common electrode and the liquid crystal layer;

a pixel electrode over the lower substrate, wherein the pixel electrode corresponds to each pixel region, and the pixel electrode is divided into transparent and reflective portions; and

a lower alignment layer between the pixel electrode and the liquid crystal layer,

wherein a transmissive axis of the upper polarizer is perpendicular to a transmissive axis of the lower polarizer, a slow axis of the upper QWP is perpendicular to a slow axis of the lower QWP, a slow axis of the upper HWP is perpendicular to a slow axis of the lower HWP, an optical retardation of the upper QWP is $\lambda/4+\alpha$, α ranges from zero to 100nm, the slow axis of the lower QWP is parallel with an orientation direction of the liquid crystal display layer, an optical retardation of the lower QWP is $\lambda/4-\beta$, and β ranges from zero to 100nm.

35. The transflective liquid crystal display according to claim 34, wherein the optical retardation of the liquid crystal layer is different between transmissive and reflective portions, the optical retardation is $\lambda/4+\alpha$in the reflective portion, and the optical retardation is $\lambda/2+\alpha+\beta$in the transmissive portion.

36. The transflective liquid crystal display according to claim 34, wherein the slow axis of the upper HWP forms an angle of θ with the transmissive axis of the upper polarizer.

37. The transflective liquid crystal display according to claim 34, wherein the slow axis of the upper QWP forms an angle of $2\theta + 45°$ with the transmissive axis of the upper polarizer.

38. The transflective liquid crystal display according to claim 34, wherein an optimum value of α ranges from zero to 50nm for adjusting the optical retardation.

39. The transflective liquid crystal display according to claim 34, wherein an optimum value of β ranges from zero to 50nm for adjusting the optical retardation.